

WHAT IS CLAIMED IS:

1. An isolated polynucleotide comprising a member selected from the group consisting of

(a) a polynucleotide encoding the same polypeptide as the polynucleotide of Figure 9;

(b) a polynucleotide encoding the same mature polypeptide as a human gene having a coding portion which includes DNA having at least a 90% identity to the DNA of one of Figures 1, 3-7 or 11-13;

(c) a polynucleotide which hybridizes to the polynucleotide of (a) and which has at least a 70% identity thereof; and

(d) a polynucleotide encoding the same mature polypeptide as a human gene having a coding portion which includes DNA having at least a 90% identity to a DNA included in ATCC Deposit No. 97,102.

2. The polynucleotide of Claim 1 wherein the human gene includes DNA contained in ATCC Deposit No. 97,102.

3. The polynucleotide of Claim 1 wherein the member is a polynucleotide encoding the same polypeptide as the polynucleotide of Figure 9.

4. A vector containing the polynucleotide of claim 1.

5. A host cell transformed or transfected with the vector of Claim 4.

6. A process for producing cells capable of expressing a polypeptide comprising genetically engineering cells with the vector of Claim 4.

7. A process for producing a polypeptide comprising: expressing from the host cell of Claim 5 the polypeptide encoded by said polynucleotide.

8. A polypeptide comprising a member selected from the group consisting of: (i) a polypeptide encoded by a human gene, said human gene having a coding portion whose DNA has at least a 90% identity to the DNA of one of Figures 1, 3-7 or 11-13; (ii) a polypeptide having the deduced amino acid

sequence as set forth in Figure 9 and fragments, analogs and derivatives thereof; and (iii) a polypeptide encoded by the human gene whose coding region includes a DNA having at least a 90% identity to the DNA contained in ATCC Deposit No. 97,102 and fragments, analogs and derivatives of said polypeptide.

9. The polypeptide of Claim 8 wherein the polypeptide has the deduced amino acid sequence as set forth in Figure 9.

10. An antibody against the polypeptide of claim 8.

11. A compound which inhibits activation of the polypeptide of claim 8.

12. A method for the treatment of a patient having need to inhibit a colon specific gene protein comprising: administering to the patient a therapeutically effective amount of the compound of Claim 11.

13. The method of claim 12 wherein the compound is a polypeptide and the therapeutically effective amount of the compound is administered by providing to the patient DNA encoding said polypeptide and expressing said polypeptide in vivo.

14. A method for the treatment of a patient having need of a colon specific gene protein comprising: administering to the patient a therapeutically effective amount of the polypeptide of claim 8.

15. A process for diagnosing a disorder of the colon in a host comprising:

determining transcription of a human gene in a sample derived from non-colon tissue of a host, said gene having a coding portion which includes DNA having at least 90% identity to DNA selected from the group consisting of the DNA of Figures 1-13, whereby said transcription indicates a disorder of the colon in the host.

16. The process of claim 15 wherein transcription is determined by detecting the presence of an altered level of RNA transcribed from said human gene.

17. The process of claim 15 wherein transcription is determined by detecting the presence of an altered level of DNA complementary to the RNA transcribed from said human gene.

18. The process of claim 15 wherein transcription is determined by detecting the presence of an altered level of an expression product of said human gene.

19. An isolated antibody or portion thereof that specifically binds to a protein selected from the group consisting of:

(a) a protein whose sequence consists of amino acid residues 1 to 323 of SEQ ID NO:16;

(b) a protein consisting of a fragment of SEQ ID NO:16, wherein said fragment comprises at least 30 contiguous amino acid residues of SEQ ID NO:16; and

(c) a protein consisting of a fragment of SEQ ID NO:16, wherein said fragment comprises at least 50 contiguous amino acid residues of SEQ ID NO:16.

20. The antibody or portion thereof of claim 19 that specifically binds protein (b).

21. The antibody or portion thereof of claim 19 that specifically binds protein (c).

22. The antibody or portion thereof of claim 19, wherein said protein specifically bound by said antibody or portion thereof is glycosylated.

23. The antibody or portion thereof of claim 19 which is a monoclonal antibody.

24. The antibody or portion thereof of claim 19 which is a polyclonal antibody.

25. The antibody or portion thereof of claim 19 which is a chimeric antibody.

26. The antibody or portion thereof of claim 19 which is a humanized antibody.

27. The antibody or portion thereof of claim 19 which is a human antibody.
28. The antibody or portion thereof of claim 19 which is a single chain antibody.
29. The antibody or portion thereof of claim 19 which is a Fab fragment.
30. The antibody or portion thereof of claim 19 which is labeled.
31. The antibody of claim 30, wherein the label is selected from the group consisting of:
- (a) an enzyme label;
 - (b) a radioisotope; and
 - (c) a fluorescent label:
32. A composition comprising the antibody or portion thereof of claim 19 and a carrier.
33. The composition of claim 32, wherein the antibody or portion thereof is a monoclonal antibody.
34. The composition of claim 32, wherein the antibody or portion thereof is a chimeric antibody.

35. The composition of claim 32, wherein the antibody or portion thereof is a humanized antibody.

36. The composition of claim 32, wherein the antibody or portion thereof is a human antibody.

37. The composition of claim 32, wherein the antibody or portion thereof is a single chain antibody.

38. The composition of claim 32, wherein the antibody or portion thereof is a Fab fragment.

39. The composition of claim 32, wherein the antibody or portion thereof is labeled.

40. The composition of claim 39, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.

41. An isolated cell that produces the antibody of claim 19.

42. A hybridoma that produces the antibody of claim 19.

43. A hybridoma that produces the antibody of claim 23.

44. A method of detecting CSG10 protein in a biological sample comprising:

(a) contacting the biological sample with the antibody or portion thereof of

claim 19; and

(b) detecting the CSG10 protein in the biological sample.

45. The method of claim 44, wherein the antibody is a monoclonal antibody.

46. The method of claim 44, wherein the antibody is a polyclonal antibody.

47. The method of claim 44, wherein the antibody is a chimeric antibody.

48. The method of claim 44, wherein the antibody is a humanized antibody.

49. The method of claim 44, wherein the antibody is a human antibody.

50. The method of claim 44, wherein the antibody is a single chain antibody.

51. The method of claim 44, wherein the antibody is a labeled antibody.

52. The method of claim 51, wherein the label is selected from the group consisting

of:

(a) an enzyme label;

- (b) a radioisotope; and
- (c) a fluorescent label.

53. An isolated antibody or portion thereof produced by immunizing an animal with a protein selected from the group consisting of:

(a) a protein whose sequence comprises amino acid residues 1 to 323 of SEQ ID NO:16;

(b) a protein whose sequence comprises at least 30 contiguous amino acid residues of SEQ ID NO:16; and

(c) a protein whose sequence comprises at least 50 contiguous amino acid residues of SEQ ID NO:16,

wherein said antibody or portion thereof specifically binds to the amino acid sequence of SEQ ID NO:16.

54. The antibody or portion thereof of claim 53 produced by immunizing an animal with protein (a).

55. The antibody or portion thereof of claim 53 produced by immunizing an animal with protein (b).

56. The antibody or portion thereof of claim 53 produced by immunizing an animal with protein (c).

57. An isolated antibody or portion thereof that specifically binds to a protein whose sequence consists of amino acid residues 1 to 323 of SEQ ID NO:16.

58. The antibody or portion thereof of claim 57, wherein said protein specifically bound by said antibody or portion thereof is glycosylated.

59. The antibody or portion thereof of claim 57 which is a monoclonal antibody.

60. The antibody or portion thereof of claim 57 which is a polyclonal antibody.

61. The antibody or portion thereof of claim 57 which is a chimeric antibody.

62. The antibody or portion thereof of claim 57 which is a humanized antibody.

63. The antibody or portion thereof of claim 57 which is a human antibody.

64. The antibody or portion thereof of claim 57 which is a single chain antibody.

65. The antibody or portion thereof of claim 57 which is a Fab fragment.

66. The antibody or portion thereof of claim 57 which is labeled.

67. The antibody of claim 66, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.

68. A composition comprising the antibody or portion thereof of claim 57 and a carrier.

69. The composition of claim 68, wherein the antibody or portion thereof is a monoclonal antibody.

70. The composition of claim 68, wherein the antibody or portion thereof is a chimeric antibody.

71. The composition of claim 68, wherein the antibody or portion thereof is a humanized antibody.

72. The composition of claim 68, wherein the antibody or portion thereof is a human antibody.

73. The composition of claim 68, wherein the antibody or portion thereof is a single chain antibody.

74. The composition of claim 68, wherein the antibody or portion thereof is a Fab fragment.

75. The composition of claim 68, wherein the antibody or portion thereof is labeled.

76. The composition of claim 75, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.

77. An isolated cell that produces the antibody of claim 57.

78. A hybridoma that produces the antibody of claim 57.

79. A hybridoma that produces the antibody of claim 59.

80. A method of detecting CSG10 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or portion thereof of claim 57; and
- (b) detecting the CSG10 protein in the biological sample.

81. The method of claim 80, wherein the antibody is a monoclonal antibody.

82. The method of claim 80, wherein the antibody is a polyclonal antibody.

83. The method of claim 80, wherein the antibody is a chimeric antibody.

84. The method of claim 80, wherein the antibody is a humanized antibody.

85. The method of claim 80, wherein the antibody is a human antibody.

86. The method of claim 80, wherein the antibody is a single chain antibody.

87. The method of claim 80, wherein the antibody is a labeled antibody.

88. The method of claim 87, wherein the label is selected from the group consisting

of:

(a) an enzyme label;

(b) a radioisotope; and

(c) a fluorescent label:

89. An isolated antibody or portion thereof produced by immunizing an animal with a protein whose sequence comprises of amino acid residues 1 to 323 of SEQ ID NO:16, wherein said antibody or portion thereof specifically binds to the protein of SEQ ID NO:16.

90. An isolated antibody or portion thereof that specifically binds to a protein selected from the group consisting of:

(a) a protein whose sequence consists of the amino acid sequence of the full-length CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102;

(b) a protein whose sequence consists of the amino acid sequence of the mature CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102;

(c) a protein consisting of a fragment of the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102, wherein said fragment comprises at least 30 contiguous amino acid residues of the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102; and

(d) a protein consisting of a fragment of the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102, wherein said fragment comprises at least 50 contiguous amino acid residues of the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102.

91. The antibody or portion thereof of claim 90 that specifically binds protein (b).
92. The antibody or portion thereof of claim 90 that specifically binds protein (c).
93. The antibody or portion thereof of claim 90 that specifically binds protein (d).
94. The antibody or portion thereof of claim 90 wherein said protein specifically bound by said antibody or portion thereof is glycosylated.
95. The antibody or portion thereof of claim 90 which is a monoclonal antibody.
96. The antibody or portion thereof of claim 90 which is a polyclonal antibody.
97. The antibody or portion thereof of claim 90 which is a chimeric antibody.

98. The antibody or portion thereof of claim 90 which is a humanized antibody.
99. The antibody or portion thereof of claim 90 which is a human antibody.
100. The antibody or portion thereof of claim 90 which is a single chain antibody.
101. The antibody or portion thereof of claim 90 which is a Fab fragment.
102. The antibody or portion thereof of claim 90 which is labeled.
103. The antibody of claim 102 wherein the label is selected from the group consisting of:
- (a) an enzyme label;
 - (b) a radioisotope; and
 - (c) a fluorescent label.
104. A composition comprising the antibody or portion thereof of claim 90 and a carrier.
105. The composition of claim 104, wherein the antibody or portion thereof is a monoclonal antibody.
106. The composition of claim 104, wherein the antibody or portion thereof is a chimeric antibody.

107. The composition of claim 104, wherein the antibody or portion thereof is a humanized antibody.

108. The composition of claim 104, wherein the antibody or portion thereof is a human antibody.

109. The composition of claim 104, wherein the antibody or portion thereof is a single chain antibody.

110. The composition of claim 104, wherein the antibody or portion thereof is a Fab fragment.

111. The composition of claim 104, wherein the antibody or portion thereof is labeled.

112. The composition of claim 111, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.

113. An isolated cell that produces the antibody of claim 90.

114. A hybridoma that produces the antibody of claim 90.

115. A hybridoma that produces the antibody of claim 95.
116. A method of detecting CSG10 protein in a biological sample comprising:
(a) contacting the biological sample with the antibody or portion thereof of claim 90; and
(b) detecting the CSG10 protein in the biological sample.
117. The method of claim 116, wherein the antibody is a monoclonal antibody.
118. The method of claim 116, wherein the antibody is a polyclonal antibody.
119. The method of claim 116, wherein the antibody is a chimeric antibody.
120. The method of claim 116, wherein the antibody is a humanized antibody.
121. The method of claim 116, wherein the antibody is a human antibody.
122. The method of claim 116, wherein the antibody is a single chain antibody.
123. The method of claim 116, wherein the antibody is a labeled antibody.
124. The method of claim 123, wherein the label is selected from the group consisting of:
(a) an enzyme label;

- (b) a radioisotope; and
- (c) a fluorescent label.

125. An isolated antibody or portion thereof produced by immunizing an animal with a protein selected from the group consisting of:

- (a) a protein whose sequence comprises the amino acid sequence of the full-length CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102;
- (b) a protein whose sequence comprises the amino acid sequence of the mature CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102;
- (c) a protein whose sequence comprises at least 30 contiguous amino acid residues of the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102; and
- (d) a protein whose sequence comprises at least 50 contiguous amino acid residues of the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102,

wherein said antibody or portion thereof specifically binds to the CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102.

126. The antibody or portion thereof of claim 125 produced by immunizing an animal with protein (a).

127. The antibody or portion thereof of claim 125 produced by immunizing an animal with protein (b).

128. The antibody or portion thereof of claim 125 produced by immunizing an animal with protein (c).

129. The antibody or portion thereof of claim 125 produced by immunizing an animal with protein (d).

130. An isolated antibody or portion thereof that specifically binds to a protein whose sequence consists of the amino acid sequence of the full length CSG10 polypeptide encoded by the cDNA contained in ATCC Deposit Number 97102.

131. The antibody or portion thereof of claim 130, wherein said protein specifically bound by said antibody or portion thereof is glycosylated.

132. The antibody or portion thereof of claim 130 which is a monoclonal antibody.

133. The antibody or portion thereof of claim 130 which is a polyclonal antibody.

134. The antibody or portion thereof of claim 130 which is a chimeric antibody.

135. The antibody or portion thereof of claim 130 which is a humanized antibody.

136. The antibody or portion thereof of claim 130 which is a human antibody.

137. The antibody or portion thereof of claim 130 which is a single chain antibody.

138. The antibody or portion thereof of claim 130 which is a Fab fragment.

139. The antibody or portion thereof of claim 130 which is labeled.

140. The antibody of claim 139, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.

141. A composition comprising the antibody or portion thereof of claim 130 and a carrier.

142. The composition of claim 141, wherein the antibody or portion thereof is a monoclonal antibody.

143. The composition of claim 141, wherein the antibody or portion thereof is a chimeric antibody.

144. The composition of claim 141, wherein the antibody or portion thereof is a humanized antibody.

145. The composition of claim 141, wherein the antibody or portion thereof is a human antibody.

146. The composition of claim 141, wherein the antibody or portion thereof is a single chain antibody.

147. The composition of claim 141, wherein the antibody or portion thereof is a Fab fragment.

148. The composition of claim 141, wherein the antibody or portion thereof is labeled.

149. The composition of claim 148, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.

150. An isolated cell that produces the antibody of claim 130.

151. A hybridoma that produces the antibody of claim 130.

152. A hybridoma that produces the antibody of claim 133.

153. A method of detecting CSG10 protein in a biological sample comprising:

(a) contacting the biological sample with the antibody or portion thereof of claim 130; and

(b) detecting the CSG10 protein in the biological sample.

154. The method of claim 153, wherein the antibody is a monoclonal antibody.

155. The method of claim 153, wherein the antibody is a polyclonal antibody.

156. The method of claim 153, wherein the antibody is a chimeric antibody.

157. The method of claim 153, wherein the antibody is a humanized antibody.

158. The method of claim 153, wherein the antibody is a human antibody.

159. The method of claim 153, wherein the antibody is a single chain antibody.

160. The method of claim 153, wherein the antibody is a labeled antibody.

161. The method of claim 160, wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope; and
- (c) a fluorescent label.